Name:

at1113exam: Expand, factor, and solve quadratics (v212)

1. Expand the following expression into standard form.

$$(6x - 5)(6x + 5)$$

$36x^2 + 30x - 30x - 25$

$36x^2 - 25$

2. Solve the equation.

$$(9x + 2)(4x + 7) \;=\; 0$$

$x = \dfrac{-2}{9}$ $\qquad$ $x = \dfrac{-7}{4}$

3. Expand the following expression into standard form.

$$(9x + 5)^2$$

$81x^2 + 45x + 45x + 25$

$81x^2 + 90x + 25$

4. Expand the following expression into standard form.

$$(7x - 4)(2x + 3)$$

$14x^2 + 21x - 8x - 12$

$14x^2 + 13x - 12$

5. Solve the equation.

$$8x^2 + 27x + 59 \;=\; 5x^2 - 2x + 3$$

$$3x^2 + 29x + 56 = 0$$
$$(3x + 8)(x + 7) = 0$$
$$x = \frac{-8}{3} \qquad x = -7$$

6. Factor the expression.

$$81x^2 - 25$$

$$(9x + 5)(9x - 5)$$

7. Solve the equation with factoring by grouping.

$$10x^2 - 15x + 12x - 18 \;=\; 0$$

$$(5x + 6)(2x - 3) = 0$$
$$x = \frac{-6}{5} \qquad x = \frac{3}{2}$$

8. Factor the expression.

$$x^2 + 2x - 63$$

$$(x + 9)(x - 7)$$